

NEW IDEAS *for* Car Workers

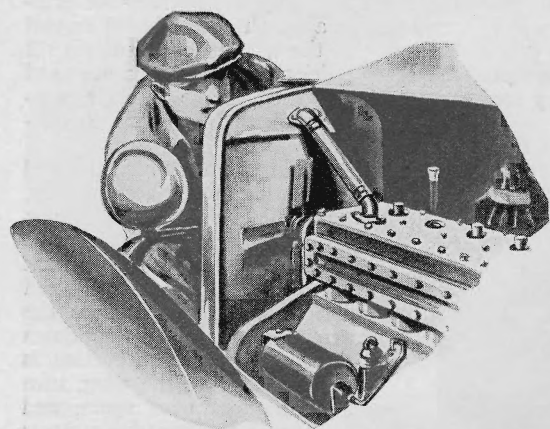


Fig. 1. To get motor's firing order put corks in place of spark plugs and turn the engine over by hand

THERE are several ways to find the firing order of the cylinders of an automobile engine when this information is not marked on the motor. One is to watch the motion of the valves while an assistant slowly cranks the motor. A simple and quick way is to remove the spark plugs and put corks in their places. Turn the motor over slowly by hand and the corks will pop out of the spark plug holes one by one in the firing order.

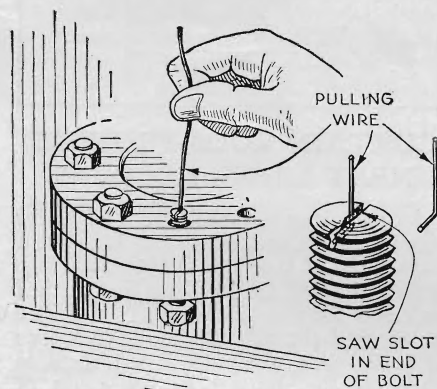


Fig. 2. To pull bolts into cramped quarters, set wire in slot in bolt and thread through hole

Pull Bolts into Place

A WIRE can be used to pull bolts into cramped quarters if you follow these directions: Make a slot in the end of the bolt with a hack saw slightly deeper than the diameter of the wire you intend to use. Place the end of the wire in the slot and peen the edges over the wire. Bend the wire at right angles so that it is parallel with the axis of the bolt. Thread the wire through the hole, pull the bolt after it, and slip the nut over the wire so that it can be started on the threads. Wire can then be pulled free and a screw

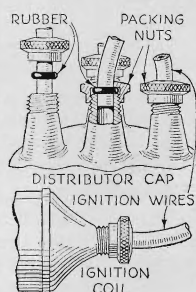


Fig. 3. Short circuits prevented with rubber under packing nuts

driver used to hold the bolt while the nut is being tightened. In some cases the wire must be inserted before attaching bolt.

Short Circuits

ASSUMING that the ignition cables are in good condition, the points where water can cause a short circuit are around the ends of the wires at the distributor cap and across the spark plug insulators. Figure 3 shows a way to make the distributor cap ends of the high tension wires absolutely waterproof. Thread the ends of the sockets on the cap and fit brass packing nuts with rubber packing rings as shown. For a complete job, the terminal of the ignition coil should be treated in the same manner and all the spark plugs should be equipped with waterproof jackets such as are sold for installation in marine engines.

WIN A \$10 PRIZE

Each month we award \$10 for the best idea sent in for motorists. This month's prize goes to M. L. Abele, Honolulu, Hawaii (Fig. 4). Contributions are requested from auto mechanics, and if printed will be paid for at usual rates.

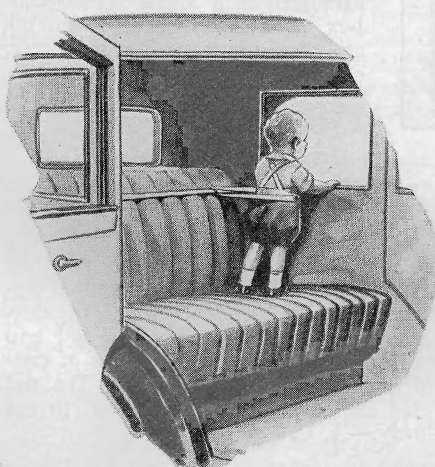


Fig. 4. A fabric strap across the back seat with a loop around baby keeps little traveler safe

Traveling with Baby

TRAVELING with a baby aged six months to two years is a nerve-wracking and perhaps dangerous job. So much attention is paid to the baby to see that he doesn't get into trouble that the driving may be neglected at a critical moment. Figure 4 shows how to make the baby safe and yet give him sufficient freedom to keep him from fretting. Fit a strong fabric strap across the back seat as shown and loop under this a shorter piece of webbing that can be attached to a suitable har-

ness made to fit the child. Any secure form of fastening can be used to adjust the length of the loop to give the child all the freedom possible without subjecting him to the danger of falling.

Repairing a Muffler

WHEN the rear head of a muffler blows out, the common practice is to replace the whole muffler. However, it is possible to repair a break even as serious as this at little expense. Figure 5 shows the method. First cut a strip of sheet metal several inches wide and long enough to fit around the muffler with ends

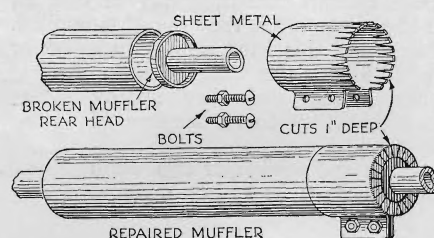


Fig. 5. A blown-out muffler rear head can be repaired with sheet metal cut and fitted as shown

bent at right angles as indicated. With the tin shears cut a number of narrow V-shaped slots, about one inch deep, along one edge. Fit over the end of the muffler with these edges protruding and bend over as shown. A couple of bolts tightened in holes drilled in the bent-up ends will draw the band tightly around the muffler and hold it together.

A Handy Jack

A SIMPLE, quick-acting jack that has many uses around the garage is shown in Fig. 6. The uprights and lever can be made of wooden two-by-fours with one-half- or five-eighths-inch stove bolts for

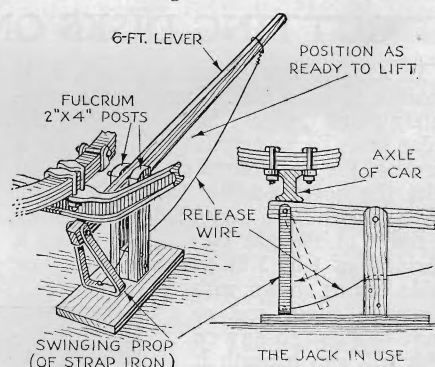


Fig. 6. A homemade jack with strap iron foot and wooden lever finds many uses in garage

hinge pins. When the release wire is pulled back, the strap iron foot swings back and up so that the business end of the lever can be placed under the axle. When the wire is released and the other end of the lever depressed, the axle is raised and the foot automatically swings into place to keep the load in the elevated position. Pressure on the lever, while the release wire is being pulled, allows the axle to be lowered.